

Jasperneite
(H)99PH1261U
US Patent Application 09/330,949

In the Claims:

1. (Currently Amended) A fieldbus component comprising:
- a data link layer, which operates with a fieldbus protocol,
 - a physical layer constituted for high speed data transmission,
 - a standardized medium-independent interface connecting said data link layer and said physical layer, and
 - a layer for matching said data link layer to said ~~standardized medium-independent interface~~ physical layer constituted for high speed data transmission by embedding the data coming from said fieldbus protocol based data link layer into a frame to be transmitted, the frame being accepted by said ~~standardized medium-independent interface~~ by imbedding the data coming from said data link layer into a frame to be transmitted, the frame being accepted by said standardized medium-independent interface physical layer and comprising a preamble, a start limiter field, a data field and an end limiter field.
2. (Canceled)
3. (Original) The fieldbus component according to claim 1, in which said data link layer comprises a medium access control layer, a basic connection layer, a peripheral data connection layer and a network management layer.
4. (Canceled)
5. (Original) The fieldbus component according to claim 1, in which said physical layer constituted for high speed data transmission is constituted according to the IEEE 802.3u standard of the Fast Ethernet.

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6. (Original) A communication system, comprising at least one fieldbus component according to claim 1 and a high speed data transmission medium, to which said at least one fieldbus component is connected.
7. (Original) The communication system according to claim 6, in which said high speed data transmission medium has a linear structure and said fieldbus component is actively coupled to said high speed data transmission medium.
8. (Original) The communication system according to claim 6, in which said high speed data transmission medium has at least one branch.
9. (Currently Amended) A process for transmission of data over a high speed data transmission medium to which several fieldbus components are coupled, comprising the following process steps:
- (a) receiving data coming from the data link layer of a fieldbus component, which uses a fieldbus protocol, at a matching layer connecting said data link layer and a standardized medium-independent interface of said fieldbus component,
 - (b) matching said data link layer to said ~~standardized medium-independent interface~~ physical layer constituted for high speed data transmission by embedding said data into a transmission frame, said frame being accepted by said physical layer and comprising a preamble, a start limiter field, a data field and an end limiter field ~~standardized medium-independent interface~~, and

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- (c) passing on said transmission frame to a physical layer of said fieldbus component, said physical layer being constituted for high speed data transmission; and
- (d) feeding said data to be transmitted to said high speed data transmission medium via said physical layer.
10. (Canceled)
11. (Canceled)
12. (Original) A communication system, comprising at least one fieldbus component according to claim 3 and a high speed data transmission medium, to which said at least one fieldbus component is connected.
13. (Canceled)
14. (Currently Amended) A communication system, comprising at least one fieldbus component according to claim 5 and a high speed data transmission medium, to which said at least one fieldbus component[[s]] is connected.
15. (New) A fieldbus component according to claim 1, wherein the physical layer is constituted according to IEEE 802.3u.
16. (New) A process for transmission according to claim 9, wherein the physical layer is constituted according to IEEE 802.3u.

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